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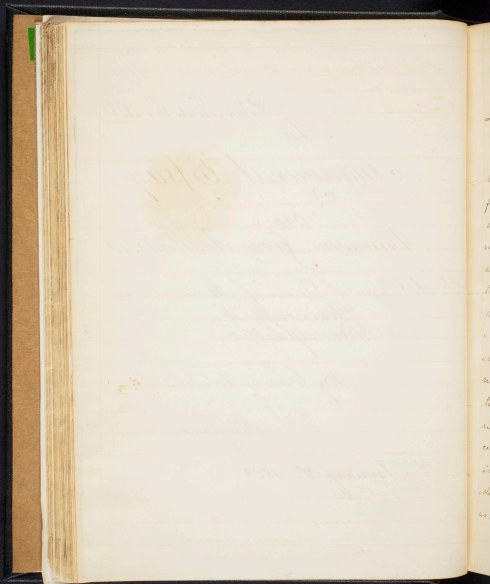
Inaugural Essay

on
Aneurism from Anastomosis

For the Degree of Doctor of Medicine in the
University of
Pennsylvania.

By Charles W. Johnson
of
Maryland.

January 2^d 1828

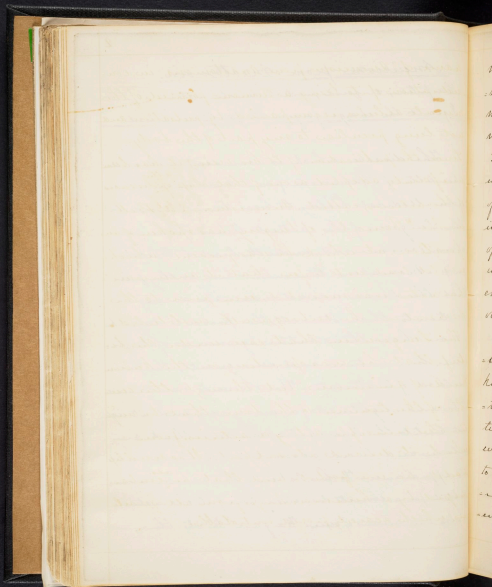


Aneurism from Anastomosis.

Confiteri; si quid prodast delicta, fatetur.

I grant the charge; forgive the fault, confessed.

The disease which is now recognised under the title of Aneurism from Anastomosis, appears from Medical history, to have been observed by the Surgeons of the earliest times. There are many cases on record, under the head of "Bloody and Anomalous tumours"; which as they prove that the disease was not more rare among the ancients than it is at the present day, likewise show their entire ignorance of its true nature, time, nature, and consequently the proper method of treatment. — This obscurity continued to be unlightened for many ages, and it was not until the time of Mr. John Bell that any certain and lucid account of this disease made its appearance. To his labours, the science is indebted for a correct demonstration of its character, as also the means of cure. He gave to it the —



name of "Aneurism from anastomosis," in consideration of its being a tumour formed of the minute arteries, accompanied by pulsation and not being peculiar to any part of the body.

Since the publication of ~~St~~ his views, it has been uniformly adopted as one of that class of ^{the} diseases of the arteries, called Aneurismos. — Mr. Bell — in his "Principles of Surgery," has spoken of an operation, at which he was present, which would lead us to infer, that its aneurismal character was suspected; even prior to the observation, he subsequently instituted.

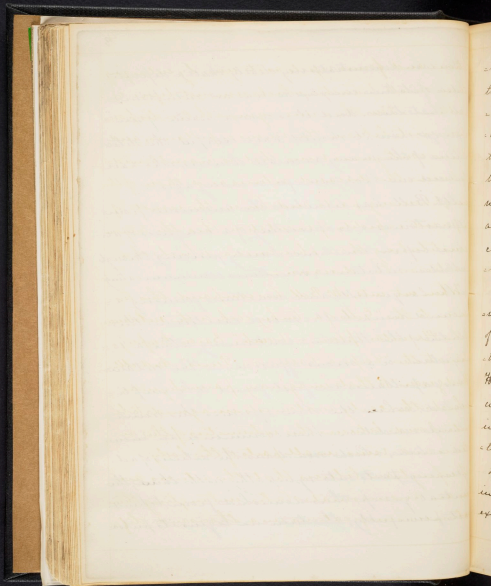
The Surgeon in that case under the belief that he was operating on the known kind of aneurism, but through the error of the tumour to the bone, that he might tie the principle artery or arteries, from which it derived its support. It is needless to add, he was foiled, and that he ^{was} embarrassed by a hemorrhage from all quarters, which scarcely proved controllable.

[Faint, illegible handwriting in cursive script, likely bleed-through from the reverse side of the page.]

[Faint handwriting visible on the edge of the adjacent page.]

This case demonstrates very clearly, that a definite idea of its true complexion, was not entertained at that time. And it is now a matter of surprise, how it should have escaped the detection of the many accurate observers, who have graced our Profession for so many ages. —

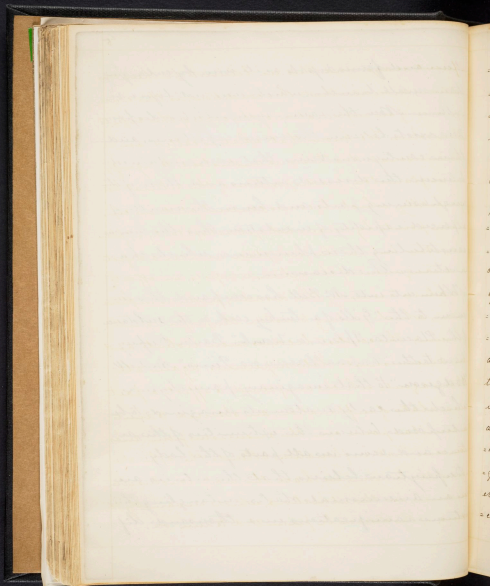
Mr. Bell has described the aneurism from Anastomosis, as consisting of a congeries of active vessels, sometimes barely piercing through cellular substance, sometimes communicating with larger cells, and sometimes forming around remarkable sacs or cavities in the centre of the tumour, containing either a coagulum or a serous effusion. — The cutaneous capillaries are first found to be implicated, when the skin assumes this tumefied condition. These commence an increased action, which soon draws the arteries of adjoining parts into sympathy with those of the central group, thus nourished from behind, act powerfully; the tumour begins its pulsa-



tions, and forms vessels as its use, by enlarging those small branches, which were not before visible. — Now the same sympathetic disposition exists between the venous capillaries, and their contiguous veins, that is maintained between the diseased arteries and those of the neighbouring parts, and hence, the results, of a forced rapidity of circulation thro' the tumour constituting those phenomena which characterise the disease. —

When cut into, Mr. Bell has compared this tumour to the "Gills of a turkey cock, or the substance of the Placenta, Spleen, or Womb." Baron Dupuytren to the "Corpora Carumosa Penis." And Mr. Hodgkinson "to that imaginary panniculus, which the early anatomists imagined to be interposed between the extremities of the arteries and veins in all parts of the body."

Dupuytren believes that the arteries are in an aneurismal state, entangling their extensive ramifications in a thousand dif-



frequent ways. And this we believe to be their con-
 dition; moreover that this condition, is the conse-
 quence of an inflammation of the coats of the vessels
 themselves. We know that what is called an
 aneurismal diathesis, is understood to signify,
 an inflammatory predisposition of the arterial tree
 generally, which becomes concentrated in cer-
 tain points, by means not yet satisfactorily explai-
 ned. Now here in the first place we have a defect
 or derangement of the extreme vessels, an effort
 of nature to remedy this disorder, produces inflame-
 tion, which failing to restore the proper equilib-
 rium, the exertion becomes more violent, and
 an aneurismal state supervenes. Again all
 those agents which are found to affect a part
 in a state of inflammation, are observed to exert
 a similar power over the aneurism from anas-
 tomosis. That inflammation attends the after sta-
 ges of the tumour, we have the most conclusive
 evidence, in the ulceration which invariably oc-
 curs, if the disease be permitted to run on.

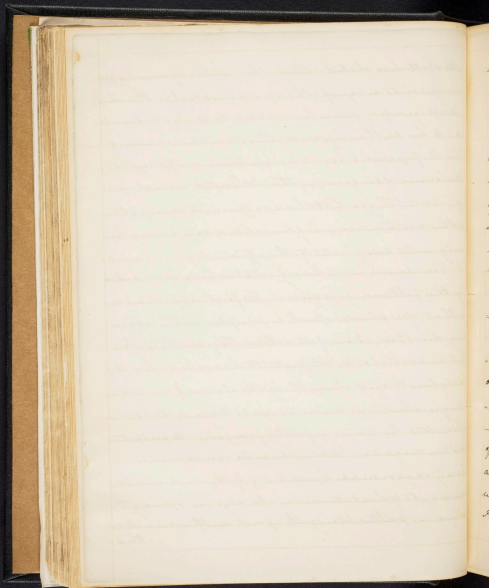


Mr. Bell has stated that the parts adjoining are drawn into a sympathetic consent with the diseased group of primary vessels—and in submissiveness to his authority, and the accepted views of the Professors. I have several times employed the same language, tho' I should much prefer ascribing, what he has given to sympathy to the continuous inflammation, as a cause in every way adequate to the effect.

The Aneurism being established, is marked by the following signs.— Its first appearance, is that of a small speck or pimple, with scarce any discolouration of the skin; Its growth is slow, but uncontrollable; at first it has only a kind of indistinct, and tumbling thro'p, such as is distinguished in Aneurismal Vampir. But—when the tumour is fully formed, its pulsations are regular, distinct, and continual.

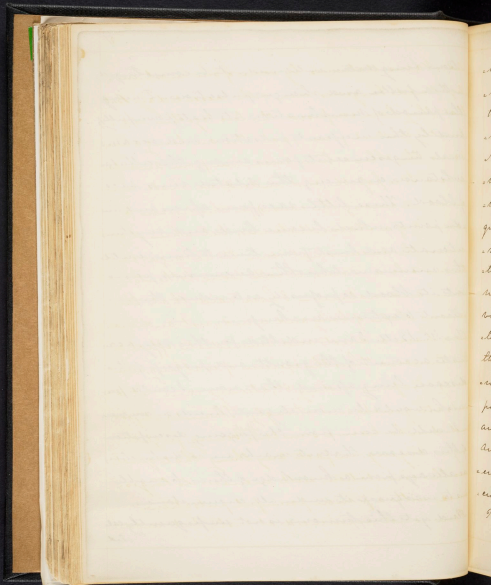
Every occasional exertion of body, and mind causes it to beat more violently. In Spring & Summer, particularly the former, the circular

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tion being more enlivened, it becomes tinged with a fuller and stronger pulsation. During the periods of menstruation, it beats powerfully; and by this incessant pulsation, and occasional turgescences, it forms among the cellular substance, or among the dilated veins, sacs of blood. These little sacs, form spires and tumours, which become hard, and very thin ulcerate and burst from time to time; until this aneurism, like other aneurisms, pours out its blood so profusely, as to reduce the patient to extreme weakness. —

To Mr. Bell I am indebted for this very accurate account of the growth and progress of this disease, being assured that none, I could furnish, would be more elegant, lucid or concise. — It will be seen, from the foregoing description of this disease, that its marks are so distinctive, as always from a knowledge of them, to enable us to recognise it under all circumstances. — And yet this tumour, is not infrequently called



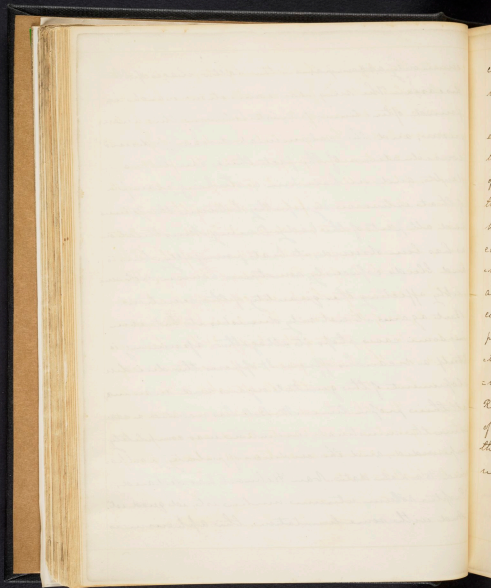
called *Narus Maternus*, by some of our most en-
 lightened Surgeons, even of the present day. But
 that they have confused the two together, is a
 bluntly evident from facts. The one being a true
Narus, the other a true Aneurism from anasto-
 mosis. It is possible, (and indeed we shall enu-
 merate it among the causes) for this disease to
 grow out of a *Narus Maternus*, but when it ap-
 pears the Aneurismal form, it no longer con-
 tinues to be a *Narus*, it both loses both its
 name and nature. — I have said that the
 various states of body and mind, rest and mo-
 tion, have a direct and immediate effect on
 this tumour. Thus the exercise of walking, run-
 ning, leaping, riding, &c., always cause it to
 pulsate quickly and strongly. Stimulant food
 and drinks, have a similar ^{effect} ~~effect~~, being, fright,
 anger, crying, in fact any thing that quick-
 ens the circulation, will increase its turgor-
 ence, with a far more powerful pulsation.

Pain is not experienced at first, but most



commonly accompanies the latter stages of the disease. — The singular connection which is found often times to exist between this Anæmia, and the catamenial discharge, deserves consideration. Of the fact there can be no doubt, and we have here a striking example of that extensive sympathy between the uterus and all parts of the body. During Menstruation as has been observed, it beats powerfully, bursts and bleeds copiously, sometimes however not sensibly affecting the quantity of the secretion.

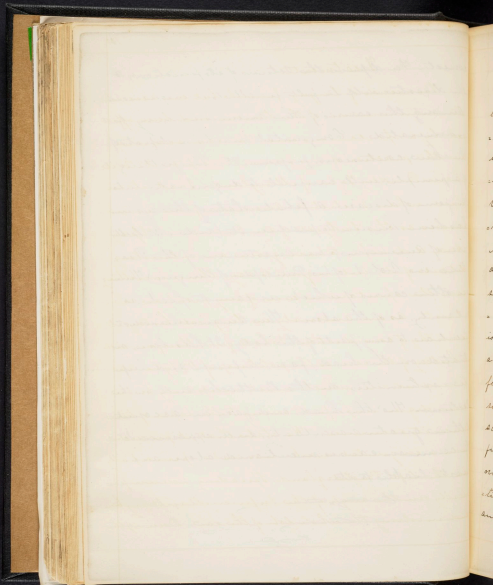
But again it not only diminishes it, but even in some cases stops it altogether, opening to itself a nearer office. It opposes the due development of the genital organs and mammae, at their proper time. W. Bell has recorded a case, where the menstrual evacuation was completely superseded, and the evidences of puberty postponed to a late date. Van Helmont has declared, "*Propter solum uterum mulier est, id quod est.*" And with some limitations, the aphorism is



correct. For deprive the returns of its functions, & the disaster will be felt in all its consequences.

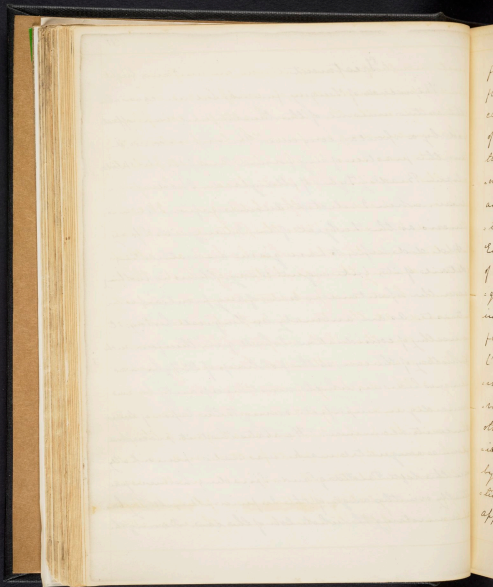
Among the causes of this Anæmia, may be enumerated. — Congenital marks or defects of the skin, contusions, pruritus, &c. The putting of a pimple, will cause it to degenerate into this form of disease. A feeble state of the system has been known to produce it. (vide Mr. Bell's case of Anæmia from anastomosis of the Rectum in Vol 1- of his Principles of Surgery.) There are other causes of which we cannot speak so certainly, as of the above. This Anæmia is not peculiar to any part of the body. It has been situated on the head, face, superior and inferior extremities, on the Buttocks, and in the Rectum. Tho' the head and face on account of their greater vascularity, and exposure to the common causes mentioned above, are most liable to it.

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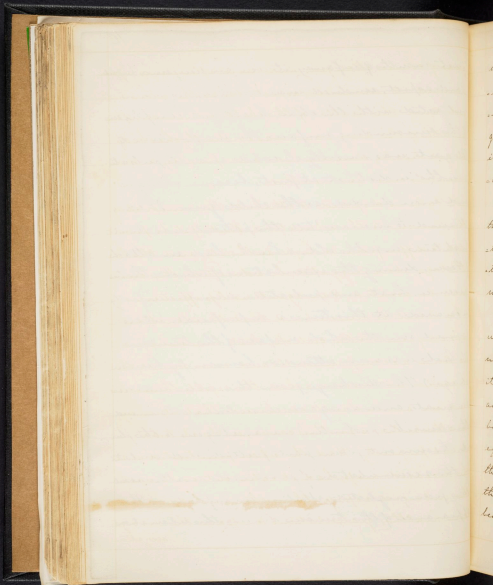


Treatment.

The records of Surgery, furnish but one case, when the entire removal of the tumour had been effected, and by a spontaneous cure. The case occurred in the practice of my former Preceptor Dr. William Bradley Tyler of Maryland. I had it in view, when I selected Anomalous from Anomalous as the Subject of an Inaugural Essay. And did hope, to have given an interesting detail of it, but regret to say, there is nothing save the spontaneous cure, of any peculiar interest. As an anomaly in Surgical history, it is worthy of consideration. I shall give, therefore, such a history of the case, as the politeness of Dr. Tyler has furnished me, which must necessarily be in some degree imperfect; owing to the lapse of time since its occurrence. "He states that it proceeded from a congenital mark, was seated principally on the left Parotid gland. Spreading however partially over the angle of the Inferior maxillary bone and involving the whole lobe of the ear. During the



first months of infancy, it wore an uniform, bright
 florid aspect, rendered more conspicuous when
 contrasted with the clear, healthful complexion
 of the surrounding surface. The temperature of
 the part, was sensibly elevated, and its pulsati-
 ons, tho' indistinct at first, became stronger
 and more decided, as the child grew. It con-
 tinued to increase till the patient was about
 eighteen months old, when she had an attack
 of Fever, during the exacerbations of which, the tem-
 -perature, heat, and pulsations were manifestly
 increased. At this time a superficial ulcer
 formed on the whole surface of the tumour.
 (Which was never attended however by hemor-
 -rhage.) The discharge from this ulcer was ve-
 -ry great, and as regards consistence, colour, and
 other sensible properties, was analagous to the flu-
 -id thrown out from parts fretted, and irritated
 by the accumulation of perspirable matter, issu-
 -ing from neglected affections in infants. — The
 appearance of the tumour, during the ulceration



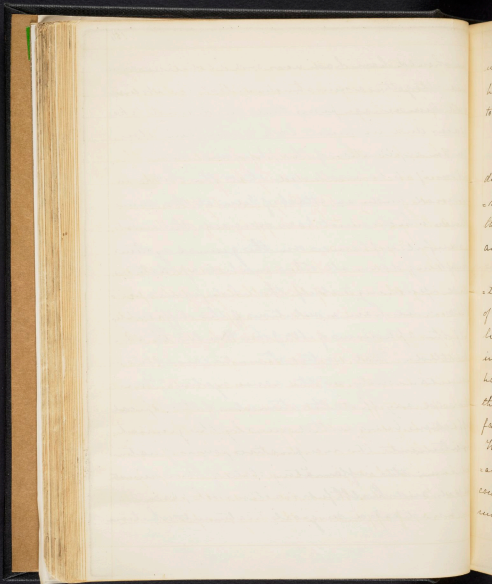
was of course changed, and even afterwards assumed its primitive aspect. For as the ulcers healed, and the health of the child returned, the growth of the aneurism was evidently checked, it gradually diminished, and finally a spontaneous cure has resulted.

Dr. Tyler is disposed to attribute the removal of the tumour to the ulceration. But if it be permitted to differ from so high authority, and the Pathology above suggested, be admitted, the cure may be ascribed to an agent no less effective.

For let it be remembered that the ulceration was confined to the cuticle, that hemorrhage at no time accompanied it, and consequently that it could not have reached the vessels themselves and we are instantly convinced that it may be attributed to another cause, with at least equal propriety. Had the ulcer penetrated into the diseased mass, had it eaten out as it were the enlarged vessels, then there would have been healthy granulations to repair the disorgan-
negation

we should have had new, and undiscarded vessels and altogether a new structure. But the absence of all hemorrhage proves that this did not take place. And we must look to something else, for an explanation of this phenomenon. —

Now if it be recollected that the child laboured under an attack of fever at the same time, which must have exercised the most powerful influence over the general system, breaking down all other morbid associations, and spreading to itself, the whole frame, as it were, we have a solution of the difficulty. — If the aphorism of Mr. John Hunter, be admitted, "That no two stimuli can exist simultaneously in the same system," We would say that the stimulus of the topical affections, being withdrawn by the general excitement, the recuperative powers of nature overcame the inflammatory state of these minute vessels, and healthful reaction took place. — No medical or surgical treatment whatever



was practised in this case, except it may
have been Antifebrile medicines, adscribed
to the fever. —

There are three modes of operating on this
disease, as recommended by Surgeons of the pre-
sent day - viz - By Pressure, by Ties, and
the Arteries or Arteries supplying the Tumour,
and by Excisions. —

Of the first we shall say but little. Enten-
taining the views of the Pathology of this form
of Anemism, that we do, our approval cannot
be expected, of any treatment, which is either
irritating in itself or its consequences. It has
however been tried and in some instances with
the happiest effect, but in many more it has
failed, tending to the aggravation of the disease.
When the tumour is situated on a superfi-
cial bone, so that firm and continued pressure
could be made, it would no doubt cause its
removal, if applied in the very incipency, but



it is only under such circumstances, that it can be recommended. In all other cases it has uniformly been found to do mischief.

Of the Second we think more favourably, have
 have occurred and may occur again, where it alone
 can be resorted to, with security to the patient,
 or credit to the surgeon, an Anomalous
 al tumour can be so situated, as to be out of
 the reach of the other means of subduing it,
 and all that we can attempt, is to cut off
 the supply of blood, and happily, it is found
 sometimes to be efficient. — Mr. Harris was the
 first to introduce this operation to the Profession
 a woman, whose eye was thrust forward by
 a pulsating tumour from behind, which filled
 did the greater part of the orbit, called upon
 him for relief. Mr. Harris immediately de-
 termined to secure the common Carotid of
 the same side, and accordingly put a liga-
 ture around it. The effect was instantly ex-
 perimented by the patient, the tumour gradua-
 ally

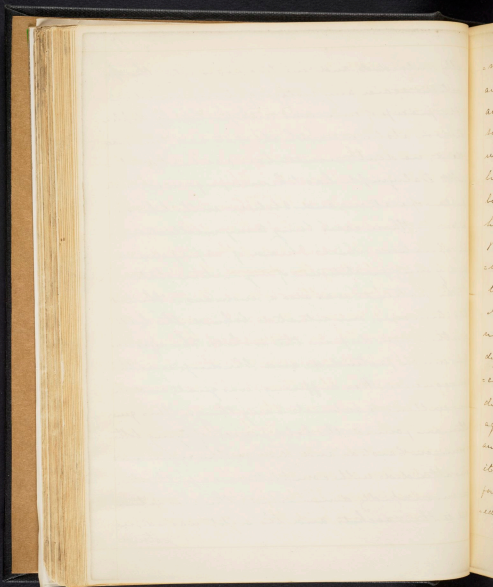


ally subsided, and in two years after the operations scarce any notice of it remained. —

The progress of cure was unassisted by depletion or abstinence, which, if it had been practiced, no doubt would have accelerated it. —

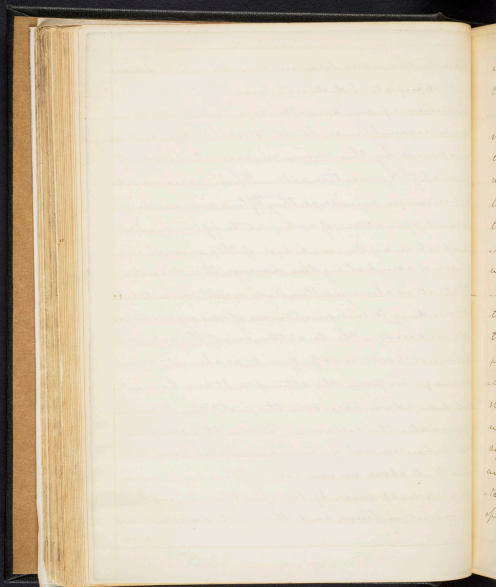
Mr. Dalrymple has likewise performed a similar operation, and I believe with like success. — These cases bring to my recollection, an operation which I heard of, as performed by a young practitioner of my native state.

The patient was also a woman. — She had two tumours, one situated behind the ball of either eye, deep in the socket. The eyes were very much protruded, and blindness was the consequence. Her suffering was great, and she was willing to submit to any thing. — This gentleman formed the bold project of tying both Common Carotids, and did so. The experiment was attended with complete success, the two tumours rapidly diminished, the eyes returned to their sockets, and the sight was not restored.



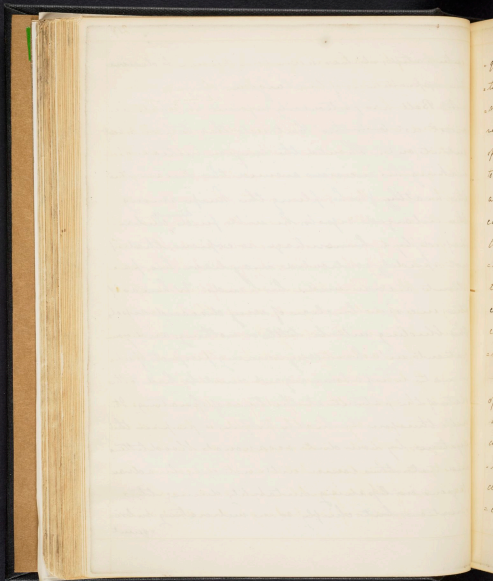
stored, she now lies in comparative ease and comfort. I did not hear that this was aneurism from anastomosis, but as it bore some resemblance, to M. Travis's case and was cured by the same means, it may not be inept to mention it. These cases should be borne in mind, as they ^{may} often supersede the horrid operation of extirpation of the eye.

But it may be remarked of this second method of combating ~~the disease~~ this disease, that it is always attended with uncertainty. According to circumstances it may, or it may not succeed. The anastomosis of the vessels of different parts, is so frequent, as almost to discourage us from the attempt. It has however the decided advantage over the first; viz. It never aggravates the disease. When the complete and entire removal of the tumour can be effected, it is to it alone we can look with confidence for a radical cure. If the operation be performed in proper time, and the whole diseased mass



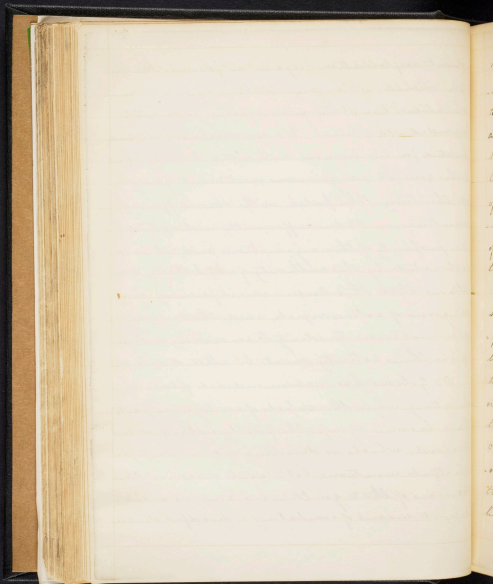
extirpated, it has never been known to deceive the expectations of the Surgeon.

Mr. Bell has particularly enforced it, that we must not "~~cut this~~" "but into this tumour, but cut it out." Should the surgeon instead of making his incision around the disease, ~~this~~ the healthy flesh, plunging the knife among the enlarged vessels, he will find ^{himself} embroiled by a hemorrhage, so copious, that if not speedily controlled, may leave his patient a corpse under his hands. Whereas if the incision be clear of every diseased vessel, the bleeding will be little or nothing, and your patient will have every seeming prospect of ultimate relief. Some regard must be had to the state of the patient at the time of operating. It will therefore be highly proper, to prepare the system, by low diet, occasional bloodletting and rest. This course will not only be advantageous in lessening irritability during the operation, but chiefly so in mitigating subsequent



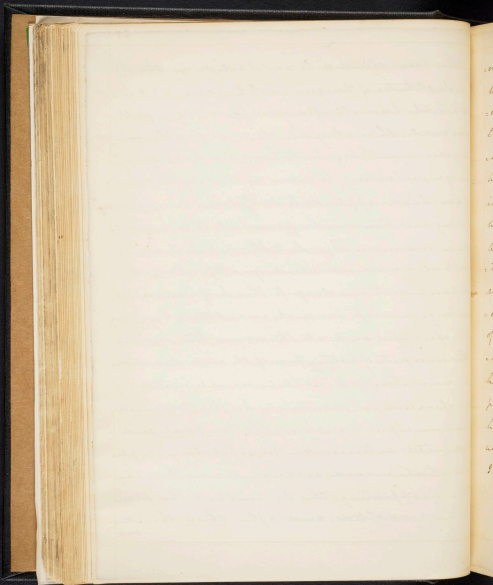
quent inflammations. Again in females the operation should not be undertaken during ^{at this period} menstruation. The state of the system is too little regarded in general. We see diseases of all kinds quoted for in women, without a little of respect to the general sanguineous excitement going on at the time. The pulse, with the supposed countenance &c. are sufficiently indications of the propriety of this injunction, and it is corroborated by the authority of M. J. Bell, who tells us that this Anæmia is formed of a congeries of active repels, and that every circumstance tending to increase or diminish this activity, must be attended to.

Dr. Gibson has recommended a plan of operating, where the repels of contiguous parts have become sympathetically enlarged and diseased, which is deserving of our most respectful mention, both as it discovers the decisions of that gentleman, and as a successful means of combating a dreadful disease.



This case alluded to is detailed in the Br.
 s Institutes of Surgery - Vol 2 - pages 153 & 4 -
 to which I must refer you for a more full
 account, than my limits will enable me
 to give. — Elizabeth Laus has having a
 large pulsating tumour on the right side
 of her head, applied to Dr Gibson. On examin-
 ing the tumour, he found it to be not only
 of an enormous size, but the vessels leading
 to it very numerous and greatly enlarged.

Seeing it unsafe to think of removing
 so large a mass, in such a condition, by a sin-
 gle operation, and at the same time seeing
 the necessity of acting promptly and decidedly,
 he determined to institute several instead of
 one operation. Accordingly, he first secured
 the principal branches of the Temporal and
 occipital arteries. An Erysipelatous eruption
 on which ensued, occasioned a week's delay,
 this disappearing, the Dr pursued the plan
 he had adopted, and after three opera-



ous (meaning the vessels as he divided them) had the satisfaction ^{to remove} completely and radically the whole diseased mass. In due time the wound healed up, the patient recovered his health, and no return of the disease has since manifested itself. — Dr. Gilson is convinced that tying the Carotids, would here had no good effect in this case, the Anastomosis was too extensive and well established, to have been much affected by such an expedient. — As this paper will necessarily meet Dr. Gilson's eye, both as Professor of Surgery and my private preceptor, I am restrained from rendering that tribute, to which he is entitled for this as well as many other practical lessons in Surgery. The Professors however have a just sense of his merits — and will under that which with propriety I cannot. —

— Yours. —

